

**CPC****COOPERATIVE PATENT CLASSIFICATION****C23G**

**CLEANING OR DEGREASING OF METALLIC MATERIAL BY  
CHEMICAL METHODS OTHER THAN ELECTROLYSIS** (polishing  
compositions [C09G](#) ; detergents in general [C11D](#) )

**Guide heading:****C23G 1/00**

**Cleaning or pickling metallic material with solutions or molten salts** (with organic  
solvents [C23G 5/02](#))

[C23G 1/02](#)

. with acid solutions

[C23G 1/025](#)

.. {acidic pickling pastes }

[C23G 1/04](#)

.. using inhibitors

[C23G 1/06](#)

... organic inhibitors

**NOTE**

In groups [C23G 1/061](#) to [C23G 1/068](#) an invention is classified in the last  
appropriate place

[C23G 1/061](#)

.... {nitrogen-containing compounds }

[C23G 1/063](#)

.... {heterocyclic compounds }

[C23G 1/065](#)

.... {sulfur-containing compounds }

[C23G 1/066](#)

.... {phosphorus-containing compounds }

[C23G 1/068](#)

.... {compounds containing a C=C bond }

[C23G 1/08](#)

.. Iron or steel

**NOTE**

In groups [C23G 1/081](#) to [C23G 1/088](#) an invention is classified in the last  
appropriate place

[C23G 1/081](#)

... {solutions containing H<sub>2</sub>SO<sub>4</sub> }

[C23G 1/083](#)

... {solutions containing H<sub>3</sub>PO<sub>4</sub> }

[C23G 1/085](#)

... {solutions containing HNO<sub>3</sub> }

[C23G 1/086](#)

... {solutions containing HF }

[C23G 1/088](#)

... {solutions containing organic acids }

[C23G 1/10](#)

.. Other heavy metals

[C23G 1/103](#)

... {copper or alloys of copper }

[C23G 1/106](#)

... {refractory metals }

[C23G 1/12](#)

.. Light metals

[C23G 1/125](#)

... {aluminium }

[C23G 1/14](#)

. with alkaline solutions

- C23G 1/16 . . . using inhibitors
- C23G 1/18 . . . . Organic inhibitors
- C23G 1/19 . . . Iron or steel
- C23G 1/20 . . . Other heavy metals
- C23G 1/205 . . . . {refractory metals }
- C23G 1/22 . . . Light metals
  
- C23G 1/24 . . with neutral solutions
- C23G 1/26 . . . using inhibitors
  
- C23G 1/28 . . with molten salts
- C23G 1/30 . . . using inhibitors
- C23G 1/32 . . . Heavy metals
- C23G 1/34 . . . Light metals
  
- C23G 1/36 . . Regeneration of waste pickling liquors

**C23G 3/00**      **Apparatus for cleaning or pickling metallic material** (with organic solvents [C23G 5/04](#); {apparatus for continuously conveying articles into baths [B65G](#) })

- C23G 3/02 . . for cleaning wires, strips, filaments continuously
- C23G 3/021 . . . {by dipping }
- C23G 3/022 . . . . {the objects following a helicoidal path }
- C23G 3/023 . . . {by spraying }
- C23G 3/024 . . . {by a combination of dipping and spraying }
- C23G 3/025 . . . {Details of the apparatus, e.g. linings or sealing means }
- C23G 3/026 . . . . {for guiding the objects }
- C23G 3/027 . . . {Associated apparatus, e.g. for pretreating or after-treating }
- C23G 3/028 . . . . {for thermal or mechanical pretreatment }
- C23G 3/029 . . . . {for removing the pickling fluid from the objects }
  
- C23G 3/04 . . for cleaning pipes

**C23G 5/00**      **Cleaning or de-greasing metallic material by other methods**  
**Apparatus for cleaning or de-greasing metallic material with organic solvents**

**NOTE**

Mixtures of organic solvents are classified according to the major component

- C23G 5/02 . . using organic solvents
- C23G 5/024 . . . containing hydrocarbons
- C23G 5/028 . . . containing halogenated hydrocarbons
- C23G 5/02803 . . . . {containing fluorine }
- C23G 5/02806 . . . . {containing only chlorine as halogen atom }

C23G 5/02809	...	{containing chlorine and fluorine }
C23G 5/02812	....	{Perhalogenated hydrocarbons }
C23G 5/02816	.....	{Ethanes }
C23G 5/02819	.....	{C2Cl3F3 }
C23G 5/02822	.....	{C2Cl4F2 }
C23G 5/02825	....	{containing hydrogen }
C23G 5/02829	.....	{Ethanes }
C23G 5/02832	.....	{C2H3Cl2F }
C23G 5/02835	.....	{C2H2Cl2F2 }
C23G 5/02838	.....	{C2HCl2F3 }
C23G 5/02841	.....	{Propanes }
C23G 5/02845	.....	{C3H3ClF4 }
C23G 5/02848	.....	{C2H2Cl2F4 }
C23G 5/02851	.....	{C2HCl2F5 }
C23G 5/02854	...	{characterised by the stabilising or corrosion inhibiting additives }
C23G 5/02858	....	{Hydrocarbons }
C23G 5/02861	....	{Oxygen-containing compounds }
C23G 5/02864	.....	{Alcohols }
C23G 5/02867	.....	{aliphatic }
C23G 5/0287	.....	{aromatic }
C23G 5/02874	.....	{Aldehydes or ketones }
C23G 5/02877	.....	{Ethers }
C23G 5/0288	.....	{Epoxy compounds }
C23G 5/02883	....	{Nitrogen-containing compounds }
C23G 5/02887	.....	{Nitro-compounds }
C23G 5/0289	.....	{N-heterocyclics }
C23G 5/02893	....	{Sulfur-containing compounds }
C23G 5/02896	....	{Phosphorus-containing compounds }
C23G 5/032	..	containing oxygen-containing compound
C23G 5/036	...	having also nitrogen
C23G 5/04	..	Apparatus
C23G 5/06	.	using emulsions